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This proposal was to provide partial funding for an international conference on the topic of organic nonlinear optics with meeting headquarters in Tucson, Arizona. The purpose of the meeting was to bring together top researchers - whose expertise spans material design, material characterization, device fabrication, and integrated device architectures - to the captive setting of a small town to discuss and assess progress in the field. This conference was motivated by six previous conferences that were held in Pullman, Washington in the summer of 1992, in Val Thorens, France in the winter of 1994 (ICONO'1); in Kusatsu, Japan in the summer of 1995 (ICONO'2); on Marco Island in the winter of 1996 (ICONO'3); Chitose, Japan summer of 1998 (ICONO'4) and Davos in Switzerland in spring of 2000 (ICONO's). This proposed meeting would be the seventh in the series of meetings that are held every 18 months. The demand for such a meeting has been evident by full-capacity attendance at all previous ICONO meetings. At the ICONO'1 meeting, U.S. and other non-European attendees had the opportunity to learn about a large array of European research activities that are normally not represented at U.S. conferences. Similarly, at ICONO'2, Pacific Rim research was showcased. ICONO'3, while held in the U.S. , was attended by a majority of foreigh scientists. ICONO'4 gave U.S. participants a first-hand view of a new university that was built in photonics vally in Japan. ICONO'6 brought together a group of internationally distinguished researchers to a forum in Tucson that encouraged discussion and interactions.

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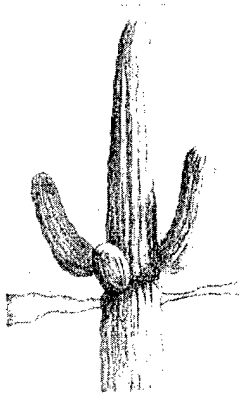
INTERNATIONAL CONFERENCE ON ORGANIC NONLINEAR OPTICS VI

This proposal was to provide partial funding for an international conference on the topic of organic nonlinear optics with meeting headquarters in Tucson, Arizona. The purpose of the meeting was to bring together top researchers - whose expertise spans material design, material characterization, device fabrication, and integrated device architectures - to the captive setting of a small town to discuss and assess progress in the field. This conference was motivated by six previous conferences that were held in Pullman, Washington in the summer of 1992; in Val Thorens, France in the winter of 1994 (ICONO'1); in Kusatsu, Japan in the summer of 1995 (ICONO'2); on Marco Island in the winter of 1996 (ICONO'3); Chitose, Japan summer of 1998 (ICONO'4) and Davos in Switzerland in spring of 2000 (ICONO'5). This proposed meeting would be the seventh in the series of meetings that are held every 18 months. The demand for such a meeting has been evident by full-capacity attendance at all previous ICONO meetings. The meeting had numerous attendees from countries that are active in organic nonlinear optics. At the ICONO'1 meeting, U.S. and other non-European attendees had the opportunity to learn about a large array of European research activities that are normally not represented at U.S. conferences. Similarly, at ICONO'2, Pacific Rim research was showcased. ICONO'3, while held in the U.S., was attended by a majority of foreign scientists. ICONO'4 gave U.S. participants a first-hand view of a new university that was built in photonics valley in Japan. ICONO'6 brought together a group of internationally distinguished researchers to a forum in Tucson that encouraged discussion and interactions.



INTRODUCTION

History

Over the past fifteen years, organic nonlinear-optical materials have been the center of intense research aimed at providing the basis for developing a variety of optical devices.[1, 2] Owing to the large second-order response of organic crystals, for example, many workers have addressed the problem of growing large high-quality crystals for second harmonic generation applications.[3] Poled doped polymers, on the other hand, were demonstrated to combine the large second-order nonlinearity of the dopant dye molecules with the optical quality of the polymer.[4] Much progress has been made in making highly stable poled polymeric materials.[5-11] Basic studies to shed light on the relaxation mechanisms in polymers aimed at further improving material stability and reliability have seen recent advances [12-17] and new methods of poling such as photoassisted-poling [18, 19] and all-optical poling [20, 21] are being reported regularly.

More recently, work has been centered not only on improving the nonlinear-optical response of molecules, [22-24] but also on improving their thermal stability. There were concerns that high nonlinearity molecules are also less stable, [25, 26] but new chromophores of high nonlinearity and thermal stability have been developed.[27] Such chromophores have been covalently attached to polymers or doped into highly stable polymers to enhance their orientational stability.[28, 29] Poled polymers are thus getting closer to becoming a technologically important nonlinear-optical material.

One advantage of the polymeric materials is that they are easy to process into large-area thin films. The first demonstration of a device incorporating a poled polymer as the nonlinear material was reported in 1987. [30] Later, a poled polymer Mach-Zehnder guided-wave electro-optic modulator was shown to have an operational bandwidth up to at least 20GHz.[31] More recently, bandwidths of 40GHz [32, 33] and 60GHz [34] have been demonstrated. The high bandwidth confirms the polymeric material's potential for high-speed operation. Poled polymers are also finding applications as second harmonic generators. A periodically poled polymer film waveguide that can be quasi-phase-matched for high efficiency has already been demonstrated.[35] Yet another method for achieving high efficiency second harmonic generation is through anomalous dispersion, where the dye chromophore acts as both the source of nonlinear response and as the source of dispersion in the refractive index. This phenomena was observed in a specially designed dye chromophore.[36]

A large third-order response in a doped polymer as measured with third harmonic generation was first reported by Matsumoto and coworkers.[37] Later, these results were confirmed by other workers who extended the nonlinear-optical characterization studies to a variety of chromophore dopants to build a theoretical framework for designing molecules with a large third-order nonlinear-optical response.[38-41] The all-optical switching nonlinearity of a polymer waveguide has been reported, [42] while other workers have addressed the optimization of other material properties such as decreased absorptive loss and two-photon absorption - important for all-optical device design.[43] Waveguiding polymer-optical fibers with nonlinear-optical cores have recently been designed specifically to meet the criteria of all-optical logic and switching devices.[44] All-optical switching has recently been observed in a polymer optical fiber with a squaraine-doped core.[45]

Studies of the third-order nonlinear-optical response of dye chromophores has accelerated. Theoretical work by Marder and coworkers on the origin of the third-order response has lead to the development of better molecules.[46] Separately, the class of squaraine dyes have received considerable attention due to their promise as chromophores that will be used in all-optical devices and are probably now the best understood $X^{(3)}$ Molecules.[47-49]

Another interesting material class is conjugated polymers. One such crystalline material, polydiacetylene-pTS (PTS), has received much attention owing to its large third-order nonlinear-optical response. Thakur and Meyler developed a shear-growing method for making thin crystal platelets of PTS.[50] Such thin film samples were studied with femtosecond transient absorption measurements that determined the nonlinearity to arise from a singlet exciton.[51, 52] More significantly for practical devices, it was shown that these materials could be formed into $8\mu m$ wide, $2.5\mu m$ thick strip waveguides.[53]

Polymeric materials are finding new areas of application. The material design flexibility afforded to doped polymers makes them attractive in a large variety of devices and applications. As a case in point, the large second-order nonlinearity and photosensitivity that is required of a photorefractive material was intentionally imparted to a polymer by incorporating two distinct dopants. The photorefractive effect of grating formation was observed according to prediction.[54] By applying the understanding that molecular orientation enhances the photorefractive effect,[55] in just three years after the initial observation of the photorefractive effect in a polymer, these materials have been optimized for nearly 100% diffraction efficiency and coupling gain coefficients of more than $2cm^{-1}/\mu m$.[56, 57] Shortly thereafter a functionalized polymer exhibiting all the requisite

properties for the photorefractive effect was demonstrated.[58] Other significant progress includes the demonstration of a photorefractive polymeric material containing C_{60} that has an exceptionally long dark lifetime, [59] the demonstration of time-averaged interferometry,[60] and the demonstration of an optical correlator.[61]

It is significant to point out that materials of high photorefractive figure of merit offer the possibility of volume optical data storage and real time holography, areas that will be technologically important in the near future as optical memory becomes common. Therefore, accelerating the possibility that optical memory may replace magnetic media. The great volume of work in this area attests to its technological significance.

Many new applications for polymers have emerged over the last 5-10 years. They are gradually becoming the materials of choice for electroluminescence [62-64] devices, that is, the conversion of electricity to light. Applications include thin-film displays. Because polymers are flexible and can be formed into large sheets, they can be used in roll-up displays and large area computer displays. Graded index, polymer optical fibers, on the other hand, are positioned to become the standard for local area networks due to their low cost, simplicity of connector design, and high bandwidth per unit length.[65-67] Note that a special two-issue set of the *Journal of the Optical Society of America,* published in January and February 1998, surveys the activity in the field.[68] These issues, which contain four dozen peer-reviewed articles, are based on ICONO'3 and cites the supporting agencies. The last such special issue appeared a decade before.

The field of organic nonlinear optics has also moved into new and unexpected areas. Most recently, researchers are applying more sophisticated methods of spectroscopy and time resolved studies to better understand how the nature of the excited states of a molecule affects the resulting nonlinearity. There has also been a resurgence in the study of squaraine molecules due to their large nonlinearities and negative off-resonant susceptibility.[69, 70] A full understanding of these materials is still elusive. Many nonlinear-optical measurements and calculations on classic polymers as well as newly synthesized materials also have been reported. In addition, rare-earth-doped polymers are being studied for use as amplifiers.[71, 72]

Another more mature area - polymer waveguides and devices - continues to progress. New polymer fiber devices and characterization techniques have been reported. In particular, the first demonstration of electrooptic fiber was reported - making all sorts of second-order devices now possible.[73, 74] Novel refractive index and nonlinear loss techniques were also recently

reported.[75] As the linear-optical properties find applications as passive devices, active device needs are sure to follow. New areas include optical squeezing in organics [76] and nonlinear-optical imaging of electric fields, [77] that has applications in integrated circuit testing.

From the brief survey presented above, it is clear that much progress has been made in developing organic materials. Furthermore, the high degree of flexibility in both engineering molecules for a specific response and in material processing has lead the way towards building a variety of new devices. As in any highly interdisciplinary field, it is important that workers be in continual communication with each other. Material scientists, for example, need to relay information to device designers on progress in new material development and processing while device scientists need to communicate what material properties are required for specific device designs. To that end, the purpose of the proposed meeting is to bring together workers with a broad range of interdisciplinary experience to discuss new results, to foster exchange of information between the represented disciplines, and to define future directions of promising areas of concentration.

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CONFERENCE TOPICS AND ORGANIZATION

The symposium provided a forum for discussion of recent developments in studies of nonlinear-optical processes in organic and polymeric systems and their applications in photonic technologies. The topics focused on fundamental issues in nonlinear-optical experiments and theory and on novel optical guided-wave devices and architectures.

Specifically, areas of discussion included:

- $\chi^{(2)}$ materials;
- $\chi^{(2)}$ devices;
- $\chi^{(3)}$ materials and devices;
- organic electroluminescent materials and processes;
- photorefractive materials and processes;
- biophotonics;
- multiphoton processes;
- charge transport in organic materials;
- single molecule spectroscopy;
- organic field effect transistors and devices;
- organic lasers;
- polymer optical fibers;
- optical limiting materials;
- nanophotonics.

The meeting was held December 16-20, 2001 in Tucson, Arizona at the Loews Ventana Canyon Resort.

Meeting Format

The format consisted of oral presentations in single sessions on interrelated topics and two poster sessions. Several blocks of free time were scheduled to encourage scientific discussions. A distinguished group of U.S. and international speakers from academic, government and industrial laboratories were invited to the meeting as shown in the attached meeting schedule. All information about the meeting was posted on the official ICONO website: www.ICONO6.arizona.edu.

Organizers

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Conference Co-chairs:
Hiroyuki Sasabe, Mark Kuzyk, François Kajzar

Local Organizing Committee:

Jean-Luc Brédas, Larry Dalton, Bernard Kippelen, André Persoons, Joseph Perry, Nasser Peyghambarian

International Advisory Committee:

Zhenan Bao, Christoph Bubeck, Anthony Garito, Peter Günter, Alan Heeger, Charles Lee, Hiro Nakanishi, Paul Armistead, Paras Prasad, Kenneth Singer, Robert Twieg, Eric Van Stryland, Joseph Zyss

Impact

The interdisciplinary interactions and exchanges between internationally renowned leaders in the field provided perspectives that can be brought to bear on developing a nonlinear-optics-based technology. As was the case with the heavily attended ICONO'1, ICONO'2, ICONO'3 ICONO'4, and ICONO'5 meetings, cross-fertilization between Japanese, European, and North American researchers occurred at ICONO'6. Furthermore, because this conference attracted a large international group, this will give us the opportunity to better assess the status of our foreign competitors.

There were 142 attendees: 10 session chairs, 35 speakers, 78 posters, and 20 volunteers. Attendees included scientists from Belgium (10), Canada (4), France (3), Germany (5), Italy (6), Japan (16), Korea (7), Mexico (1), New Zealand (2), Switzerland (2), United Kingdom (1) and the United States.

Publication

Invited speakers were invited to submit papers for inclusion of a special issue of *Advanced Functional Materials*, that was guest edited by Jean-Luc Brédas and Seth R. Marder. The issue includes the papers by the following lead authors:

- Bernard Kippelen
- David Beljonne
- Toshiyuki Watanabe
- Wolgang Knoll
- Toshi Kaino
- WE Moerner
- Valy Susan
- Susan Ermer
- Koen Clays
- Alex Jen

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University of Arizona, Vice President for Research

Monday, December 17, 2001

8:15 – 8:30	Opening Remarks	*Chair: S. Marder*
8:30 – 10:10	**EO Materials & Devices I**	*Session Chair: C. Lee*
8:30 – 9:00	Functional Dendrimers for Nonlinear Optics *Alex K.Y. Jen, Invited Speaker*	
9:00 – 9:20	π-Control of Intramolecular Charge Transfer in Azinium-Dicyanomethine Zwitterions *Giorgio A. Pagani, Contributed Talk*	
9:20 – 9:50	Progress in Polymeric Materials and Devices for Electro-Optic Modulation *Susan Ermer, Invited Speaker*	
9:50 – 10:10	Dynamics of Diffraction Grating Formation in Hybrid: Photoconducting Polymer – Liquid Crystal Cells *François Kajzar, Contributed Talk*	
10:10 – 10:40	Break	
10:40 – 12:00	**Photo-Refractives**	*Session Chair: H. Sasabe*
10:40 – 11:10	Recent Advances in Understanding and Development of Photorefractive Polymers and Glasses *W. E. Moerner, Invited Speaker*	
11:10 – 11:40	Photorefractive Polymers with Non-destructive Read-out *Bernard Kippelen, Invited Speaker*	
11:40 – 12:00	Modeling and Design of Photorefractive Polymer Composites *Kenneth D. Singer, Contributed Talk*	
12:00 – 4:30	Free Time	
4:30 – 6:20	**Studies of Conjugated Materials I**	*Session Chair: J.-L. Brédas*
4:30 – 5:00	Neutral and Charged Photoexcitations in Films of Regio-Regular and Regio-Random Poly(3 hexyl thiophene) *Z. Val Vardeny, Invited Speaker*	
5:00 – 5:20	Two Photon Photopolymerization of Functional Micro-Devices *Satoshi Kawata, Contributed Talk*	
5:20 – 5:40	Injection Efficiency Enhancement in Organic Electroluminescent Structures *Ted Sargent, Contributed Talk*	
5:40 – 6:00	Ultra-fast Optical Properties in Dendrimer and Dendrimer Metal Nanocomposites *Theodore Goodson III, Contributed Talk*	
6:00 – 6:20	Studies of Amplified Spontaneous Emission in Dye-Doped Polymer Fibers at 650 nm *Mark G. Kuzyk, Contributed Talk*	
6:20 –7:30	Poster Session I – listing follows	

Tuesday, December 18, 2001

8:30 – 10:00	**EO Materials & Devices II**	*Session Chair: G. Stegeman*
8:30 – 9:00	Novel Developments in Multipolar Molecular Engineering: Application to Optical Signal Processing and High Bit-Rate Telecommunications ***Isabelle Ledoux, Invited Speaker***	
9:00 – 9:30	All Optical Refractive Index Control Using Photochromic Polymer ***Eunkyoung Kim, Invited Speaker***	
9:30 – 10:00	Optical and Molecular Technologies in Modern Computer Systems ***Rick Lytel, Invited Speaker***	
10:00 – 10:30	Break	
10:30 – 12:20	**Studies of Conjugated Materials II**	*Session Chair: J. Perry*
10:30 – 11:00	Nonlinear Spectroscopy for Optical Limiter Development ***Eric Van Stryland, Invited Speaker***	
11:00 – 11:30	Three Dimensional Microfabrication of Soft Materials by Two-Photon Excitation ***Toshiyuki Watanabe, Invited Speaker***	
11:30 – 11:50	Optical Orientation of Individual Isomers ***Zonheir Sekkat, Contributed Talk***	
12:30 – 4:30	Excursion – Arizona Sonora Desert Museum	
5:30 –7:00	Poster Session II	
7:15 – 11:00	Excursion – Pinnacle Peak Restaurant	

Wednesday, December 19, 2001

8:30 – 10:10	Nano & Bio-Photonics I	*Session Chair: B. Kippelen*
8:30 – 9:00	Nanophotonics *Watt W. Webb, Invited Speaker*	
9:00 – 9:20	Molecular Probes for Nonlinear Optical Imaging of Biological Membranes *Mireille Blanchard-Desce, Contributed Talk*	
9:20 – 9:40	New Organic Dendrimers with Record Intrinsic Two-Photon Absorption *Charles W. Spangler, Contributed Talk*	
9:40 – 10:10	Nonlinear Light Scattering by Organic Molecules and Materials *Koen Clays, Invited Speaker*	
10:10 – 10:40	Break	

10:40 – 12:20 **EO Materials & Devices II** *Session Chair: N. Peyghambarian*

10:40 – 11:10 Two-Photon Absorption of Conjugated Materials: Role of Symmetry and Dimensionality
David Beljonne, Invited Speaker

11:10 – 11:40 Fabrication of DAST Channel Optical Waveguides
Toshikuni Kaino, Invited Speaker

11:40 – 12:10 Molecular Beam Deposition of Organic Nonlinear Optical Thin Films
Peter Günter, Invited Speaker

12:15 – 4:30 Free Time

4:30 – 6:10 **Organic Electronics I** *Session Chair: N. Armstrong*

4:30 – 5:00 Charge Transport Properties of Amorphous Molecular Materials for Organic Light-Emitting Diodes
Yasuhiko Shirota, Invited Speaker

5:00 – 5:20 Liquid Crystalline and Hybrid Organic Semiconductors
Robert J. Twieg, Contributed Talk

5:20 – 5:40 Ultrafast Charge Transport in Self-Assembling Photofunctional Molecular Arrays
Michael R. Wasielewski, Contributed Talk

5:40 – 6:10 Three Dimensional Microfabrication of Soft Materials by Two-Photon Excitation
Francesco Stellacci, Invited Talk

6:10 – 7:00 Free time

7:00 – 7:50 Pre-banquet Reception

8:00 – 1030 Conference Banquet

Thursday, December 20, 2001

8:30 – 10:10 **Nano & Bio-Photonics II** *Session Chair: A. Persoons*

8:30 – 9:00 Surface-Plasmon Optical Techniques for the Quantitative Evaluation of Oligonucleotide Hybridization Reactions at Solid/Solution Interfaces
Wolfgang Knoll, Invited Speaker

9:00 – 9:30 Photorefractive Organic Glasses
Rüdiger Wortmann, Invited Speaker

9:30 – 9:50 Real Time Vibrational Dynamics in Conjugated Systems
Guglielmo Lanzani, Contributed Talk

9:50 – 10:10 Polymer Photonic Crystal Slab Waveguides
Markus Schmidt, Contributed Talk

10:10 – 10:40 Break

10:40 – 12:00 **Organic Electronics II** *Session Chair: P. Armistead*

10:40 – 11:10 Self-Assembled Organic Materials for Organic Transistors
Zhenan Bao, Invited Speaker

11:10 – 11:40 Spintronics in Hybrid Organics – Inorganic Devices
Carlo Taliani, Invited Speaker

11:40 – Closing Remarks *Chair: S. Marder*

Poster Session – Monday, December 17, 2001

PS 1 Third-order Nonlinear Optical Properties in PMMA Films Functionalized with MEH-PPV and Semiconductor Nanocrystals
Yuankun Lin

PS 2 Excited State Properties of Rigid-Wired Metal-complex Dendrimers
Taskashi Isoshima

PS 3 Photoinduced Change of Third Harmonic Generation in Azo Polymer Thin Films
Chia Chen Hsu unable to attend

PS 4 Third Order Nonlinear Optical Properties of Poly(*p*-phenylenevinylene) Derivatives in the Infrared Range: Influence of the Structure and of the Synthetic Route
G. M. Farinola

PS 5 Molecules with Quinoid Ground State: A New Class of Large Molecular Optical Nonlinearities
M. Lanata unable to attend

PS 6 Chiral Binaphthyl-based Polymers for Nonlinear Optics
G. Koeckelberghs

PS 7 Simple Zwitterionic Merocyanines as Potential NLO Chromophores
A. J. Kay

PS 8 Photoinduced Second Order Nonlinearity in Dimethylamino-nitrosilbene Polymer Thin Films
Chia Chen Hsu unable to attend

PS 9 Generation and Detection of Terahertz Radiation with Multilayered Electro-Optic Polymer Films
L. Michael Hayden

PS 10 Syntheses, Structures and Quadratic Nonlinear Optical Properties of *N*-Arylated Pyridinium Salts
James A. Harris

PS 11 Ruthenium Ammine Complexes with Two Pyridinium Acceptor Groups
James A. Harris

PS 12 High Glass Transition Polyimides and Poly(phenylquinoxalines) for Nonlinear Optical Applications
E. Gubbelmans

PS 13 Synthesis and Properties of Some Dicyanomethylenedihydrofuran Containing Chromophores
Robert J. Twieg

PS 14 Photorefractive Organic Glasses for Optical Data Storage
Jiwon Sohn

PS 15 Structure-Property Relationship in the Multifunctional Photorefractive Polymers
Jaehoon Hwang

PS 16 Fully Functionalized Photorefractive Polymethacrylates
C. Engels

PS 17 Evaluation of the Two-Photon Absorption Cross-Section of a Metal Complex; Tris-(4,7-diphenyl-1-10-phenanthroline)ruthenium(II)perchlorate
J. Kawamata

PS 18 Two-Photon Absorption of Bis(4-pyridylvinylenephenylene)-diacetylene Derivatives
K. Kamada

PS 19 TPA-Induced Accumulated Thermal Process Affecting Femtosecond Z-scan Measurements
K. Kamada

PS 20 Nonlinear Absorption in Molecules with Fluorene and Dithenothiophene π-centers
M Cha

PS 21 Optimization of Quadrupolar Chromophores for Molecular Two-Photon Absorption
Mireille Blanchard-Desce

PS 22 Efficient Two-Photon Fluorescent Properties of a Class of Conjugated Keton Derivatives
J. Kawamata

PS 23 Design and Synthesis of New Dendritic Materials with Greatly Enhanced Two-Photon Cross-Sections
Z. Suo

PS 24 New Heterocycle-Based Dyes for Efficient Two Photon Absorption
R. Signorini

PS 25 Time-Resolved Transmission through a Photonic Crystal in the Complete Fourier Domain
K. Wostyn

PS 26 Alignment of Liquid Crystals with Periodic Nanostructures Ablated in Polymeric Surfaces
S. Soria

PS 27 Photoinduced Birefringence and Optical Activity in Azobenzene-containing Polymer Films
D. Pedron

PS 28 Novel Passive and Active Perfluorocyclobutane(PFCB) Polymers for Photonic Devices
H. Ma

PS 29 A Numerical Study of Solitary Waves in Polymer Optical Fiber Amplifiers
R. J. Kruhlak

PS 30 Theoretical Investigation of the Geometrical and Optical Characteristics of Neutral and Doped Fluorene Oligomers
L.F. Murga

PS 31 Efficient Two Photon Photoacids
W. Zhou

PS 32 Organic Semiconductors: A Theoretical Characterization of the Basic Parameters Governing Charge Transport
D. A. Filho

PS 33 Intramolecular Electron Transfer in Triarylamine Mixed-Valence Systems
V. Coropceanu

PS 34 Reorganization Energy of Oligoacenes
M. Malagoli

PS 35 Dipole Field Effects on Bulk and Surface Optical Properties in Crystals of *para*-nitroaniline
M. Malagoli

PS 36 Controlling Resolution in Three-Dimensional Lithographic Microfabrication by Two-Photon-Initiated Polymerization
S. M. Kuebler

PS 37 Photochemically Induced Growth of Nanoparticles for 2 & 3D Metal Patterning
F. Stellacci

PS 38 Electronic Structure of Organic Charge Transport Materials: Dioxaborines and Oxadiazoles
C. M. Risko

Poster Session II Tuesday, December 18, 2001

PS 1 Metal/conjugated Molecules Interfaces: A Strategy for Enhancing Molecular Nonlinear Optical Properties. A SERS Study
M. Del Zoppo unable to attend

PS 2 Influence of In-Backbone Substitution on Third-Order Nonlinear Optical Properties
S. Concilio unable to attend

PS 3 Polymeric Grating Waveguide for Nonlinear Optical Switching
M. A. Bader

PS 4 THG Properties of Oriented Thin Films of Cobaltadithiolene Complexes
T. Kamata

PS 5 Third Order Nonlinear Optical Susceptibility of Polymers Based on Carbazole Derivatives and New Octupolar Molecules
I. Fuks unable to attend

PS 6 Third-Order Optical Non-Linearities in Titanium Bis-Phthalocyanine/Toluene Solutions
Gentilina Rossi unable to attend

PS 7 Study of Self-Focusing in Thermochromic Polymer New Diffraction Limit
Bum Ku Rhee

PS 8 Saturation of the Near-Resonant Nonlinearity of a Triazole-Quinone Derivative
B. Rangel-Rojo

PS 9 Design and Synthesis of Noncentrosymmetric Organic Thin Films
D. J. Dyer

PS 10 Boomerang-Shaped Octupolar Molecules Derived from Triphenylbenzene
Mireille Blanchard-Desce

PS 11 Hyperpolar Multichormophoric Supramolecular Derivative for Photonics
Mireille Blanchard-Desce

PS 12 Optimal Deposition Conditions for the Self-Assesmbly of Noncentrosymmetric Supramolecular Thin Films by Organic Molecular Beam Deposition
I. Baggio

PS 13 Nonlinear Magneto-Optic Susceptibilities
S.Sioncke

PS 14 Prospects for Nonpolar Electro-Optic Media
Kenneth D. Singer

PS 15 Polymer Materials for Second-Order Nonlinear Optical Applications
C. A. Samyn unable to attend

PS 16 Time Evolution and Polar Stabilization of the Orientational Distribution Function of DR1/PMMA Polymer Films Corona Poled under High Field Conditions
V. Rodriquez

PS 17 A New Approach for Designing Second-Order NLO Chromphores Exhibiting both High Nonlinearity and Wide Transparence by using Combined Conjugation Bridges
Jinqui Qin unable to attend

PS 18 Spectral Properties of $\chi^{(2)}$ Molecules: Vibrational Channels and Solvation Dynamics
A. Painelli *unable to attend*

PS 19 The Effects of Polymer Main Chains on the Second Order NLO Property of Dye-Containing Polymers
Takeshi Ogawa unable to attend

PS 20 Second Harmonic Generation Behavior of a Film Hybridized with a Clay and a Zwitter Ionic Molecule
Y. Ogata

PS 21 Time-Resolved Spectroscopic Measurement and Intermolecular Interactions in Dye-Encapsulated Dendrimer Films
A. Otomo

PS 22 Synthesis of Luminescent Dendrimers for Device Applications
G. D. D'Ambruoso

PS 23 Energy and Electron Transfer in Dye-Doped Conjugated Polymers
Gregory D. Scholes

PS 24 Relaxation Dynamics and Saturation Spectroscopy of $(TTF^{+})_2$ Dimers Dispersed in a Polymer Matrix
D. Pedron

PS 25 Field-Induced Superconductivity in Oligo- and Polythiophenes in FET Configuration Studied by a Two-Band Model
Koji Ohta

PS 26 Photoinduced Reversible Optical Gratings in Polymeric Thin Films Doped with Photochromic Diarlyethenes
Peter Günter

PS 27 Light Induced Changes in NO_2-Substituted Rotaxanes: Switching Behavior in a Mechanically Interlocked Architecture
François Kajzar

PS 28 Correlation between Second- and Third-Order Nonlinear-Optical Susceptibility Based on Electronic Polarization
T. Iwamura

PS 29 Photocrosslinkable Hole Transport Materials
R. D. Hreha

PS 30 Water Soluble Two-Photon Dyes
L. Dollinger

PS 31 Crystal Susceptibility Calculation Using the Orient Gas Model

T. V. Timofeeva

PS 32 Carbazole, Indole and Benzothiophene Derivatives as Potential Materials for NLO LB-films
V. N. Nesterov

PS 33 Arylidene Derivatives of Diaminomaleontirle: Synthesis and Structures of New Acentric NLO Compounds
V.V. Nesterov, Jr.

PS 34 Chrial (S)-(+)-2-(Methoxymethyl)pyrrolidine Polar Derivatives for NLO Materials
V. V. Nesterov, Jr.

PS 35 Förster Energy Transfer from a Fluorescent Dye to a Phosphorescent Dopant: A Concentration and Intensity Study
B. Domercq

PS 36 Two-Photon Spectroscopy of Cyano-Substituted Bis(styryl)benzene Compounds
Stephanie J. K. Pond

PS 37 Side-Induced Fluorescence Loss Measurements on Laser-Dye Doped and Undoped Unclad Plastic Optical Fibers
C. W. Dirk

PS 38 Self-Organizing Rod-Like Molecular Assemblies: Control of Coherence through Interface Modification and Side-Chain Photolysis
N. Armstrong

Budget

The requested support for five speakers from the United States was used to defray costs for travel registration and hotel fees

Support from Air Force Office of Scientific Research was clearly give in conference.

TOTAL BREAKDOWN

Number	Category	Cost
5	Speakers and attendees	$6,250
	TOTAL REQUEST	$6,250

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Final Schedule
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Sunday 16 Dec 2001	Monday 17 Dec 2001	Tuesday 18 Dec 2001	Wednesday 19 Dec 2001	Thursday 20 Dec 2001
	7:15 – 8:15 Breakfast 8:15 – 8:30 Welcome -- Seth Marder	7:15 – 8:30 Breakfast	7:15 – 8:30 Breakfast	7:15 – 8:30 Breakfast
	8:30 – 10:10 EO Materials & Devices I Session Chair – C. Lee Alex K.Y. Jen Giorgio Pagani Susan Ermer François Kajzar	8:30 – 10:10 EO Materials & Devices II Session Chair – G. Stegeman Isabelle Ledoux Eunkyoung Kim Rick Lytel	8:30 – 10:10 Nano & Bio-Photonics I Session Chair – B. Kippelen Watt W. Webb Mireille Blanchard-Desce Charles Spangler Koen Clays	8:30 – 10:10 Nano & Bio-Photonics II Session Chair – A. Persoons Wolfgang Knoll Rüdiger Wortmann Guglielmo Lanzani Markus Schmidt
	10:40 – 12:00 Photo-Refractives Session Chair – Hiro Sasabe W.E. Moerner Bernard Kippelen Kenneth D. Singer	10:30 – 11:50 Studies of Conjugated Materials II Session Chair – Joe Perry Eric Van Stryland Toshiyuki Watanabe Zouheir Sekkat	10:40 – 12:10 Materials & Devices II Session Chair – Nasser Peyghambarian David Beljonne Toshikuni Kaino Peter Günter	10:40 – 11:40 Organic Electronics II Session Chair – Paul Armistead Zhenan Bao Carlo Taliani
	12:00 –1:30 Lunch 1:30 4:30 Free time -- on your own	12:00 –1:30 Lunch 12:00 – 4:30 Excursion: Arizona-Sonora Desert Museum (box lunch provided)	12:00 –1:30 Lunch 12:45 – 4:30 Free time -- on your own	11:40 Closing Remarks Seth Marder
3:00 – 6:00 p.m. Registration	4:30 – 6:10 Studies of Conjugated Materials Session Chair – Jean-Luc Brédas Z. Valy Vardeny Satoshi Kawata Ted Sargent Theodore Goodson III Mark Kuzyk	4 :30 – 5 :30 Free time -- on your own	4:30 – 6:10 Organic Electronics I Session Chair – Neal Armstrong Yasuhiko Shirota Robert Twieg Francesco Stellacci	
6:30 p.m. BBQ Dinner at Loews Ventana Canyon Resort	6:10 – 7:30 Poster Session I Posters must be up by 3:00 p.m.	5:30 – 7:00 Poster Session II	7:00 Pre-Banquet Reception	
		7:15 Excursion: Pinnacle Peak Restaurant	8:00 – 10:30 Conference Banquet	